CLAIMS

What is claimed is:

1. A disc brake assembly comprising:

a) a hub, having a rotor mount having at least one receptacle on an outer periphery thereof;

b) a rotor assembly including a rotor carrier having a central sleeve defining an axial opening therein, a number of splines positioned around the opening and engageable with the splines on the rotor mount, and at least one slot disposed on the sleeve and extending through the sleeve and into the opening;

c) a biased retainer clip having a body portion positionable around the rotor carrier, the body portion at least one inwardly extending engaging portion releasably securable within the slot of the rotor carrier and the receptacle of the rotor mount, and a pair of opposed ends that are movable with respect to one another to disengage the engagement portion from the slot and the receptacle.

2. The assembly of claim 1, wherein the body portion is generally circular in shape.

3. The assembly of claim 1, wherein the opposed ends are disposed in an overlapping configuration.

4. The assembly of claim 1, wherein the retainer clip is formed of a length of a rigid material bent to form the body portion, the engaging portion, and the opposed ends, and having an inherent bias that urges the clip to an unflexed state.

5. The assembly of claim 1, wherein the carrier has at least two opposed slots and the retainer clip bent portion has at least two opposed inwardly extending engaging portions.

6. The assembly of claim 1, wherein the opposed ends are releasably connected to one another.

7. The assembly of claim 1, wherein the receptacle is a groove in the rotor mount.

8. A disc brake rotor comprising:

a) a rotor carrier having a central sleeve defining an axial opening therein, a number of splines positioned around the opening and engageable with corresponding splines of a rotor mount of a hub, and at least one slot disposed on the sleeve and extending through the sleeve and into the opening;

b) a biased retainer clip having a body portion positionable around the rotor carrier, the body portion including at least one inwardly extending engaging portion releasably securable within the slot of the rotor carrier and a receptacle on the hub, and a pair of opposed ends that are movable with respect to one another to disengage the engaging portion from the slot and the receptacle.

9. The rotor of claim 8, wherein the splines on the rotor carrier are oriented perpendicular to the groove

10. The rotor of claim 8, wherein the splines are generally wedge-shaped.

11. The rotor of claim 8, further comprising a locking bar releasably connecting the pair of opposed ends on the retainer clip.

12. The rotor of claim 11, further comprising a ring spaced from the rotor carrier and presenting rub area for engagement by a brake pad.

13. A method comprising the steps of:

a) providing a disc brake assembly including a hub including a rotor mount having a number of splines and a receptacle on outer periphery of the rotor mount inwardly of an outer axial end thereof, a rotor carrier having a central sleeve defining an axial opening therein, a number of splines positioned around the opening and engageable with the splines of the rotor mount, and at least one slot extending through the sleeve and into the opening, and a biased retainer clip having a body portion positionable around the rotor carrier, the body portion including at least one inwardly extending engaging portion that extends through the slot of the rotor carrier and into engagement with the receptacle;

b) squeezing the ends of the retainer clip together to withdraw the engaging portion from the receptacle; and

c) sliding the rotor axially from the hub.

14. The method of claim 13, wherein the step of disengaging the biased retainer clip comprises urging the opposed ends of the clip towards one another against the bias of the clip.

15. The method of claim 13, further comprising the step of disengaging a locking bar connecting the opposed ends of the clip prior to urging the opposed ends towards one another.

16. The method of claim 13, further comprising sliding the rotor assembly onto the rotor mount by:

a) aligning splines on the rotor with the splines on the rotor mount; and

b) sliding the rotor carrier onto the rotor mount to align the slot in the carrier with the receptacle on the rotor mount.

17. The method of claim 13, further comprising reengaging the biased retainer clip with hub by:

a) aligning the engaging portion with the slot in the rotor carrier and the receptacle on the rotor mount; and

b) allowing the bias of the clip to drive the engagement portion into engagement with the receptacle.

18. The method of claim 13, further comprising the step of locking the position of the opposed ends with respect to one another after releasing the opposed ends.

19. A splined brake disc rotor that can be mounted on a splined hub and locked from axial movement with respect to the hub without using any tools.

20. The rotor of claim 19, wherein the rotor comprises

a splined carrier having a slot formed therethrough, and

a biased securing member at least selectively insertable through said slot and into engagement with a corresponding receptacle in the hub.

21. The rotor of claim 20, wherein said biased securing member comprises a retainer clip.

22. A method comprising:

sliding a splined brake disc rotor axially onto a correspondingly splined hub; and

locking said rotor from axial movement relative to said hub by latching a securing member on one of the hub and the rotor against a receptacle on the other of the hub and the receptacle.

23. In a brake system including a brake rotor, a brake rotor carrier connected thereto and for engagement with a brake hub, a biased retaining member having at least one section that is at least partially insertable into the brake rotor carrier for retaining the brake hub with respect to the brake rotor carrier when the biased retaining member is inserted and released and wherein the biased retaining member is removable from the brake rotor carrier so as to move the at least one section from frictional contact with the retained brake hub by tool-free compression of the biased retaining member.